Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

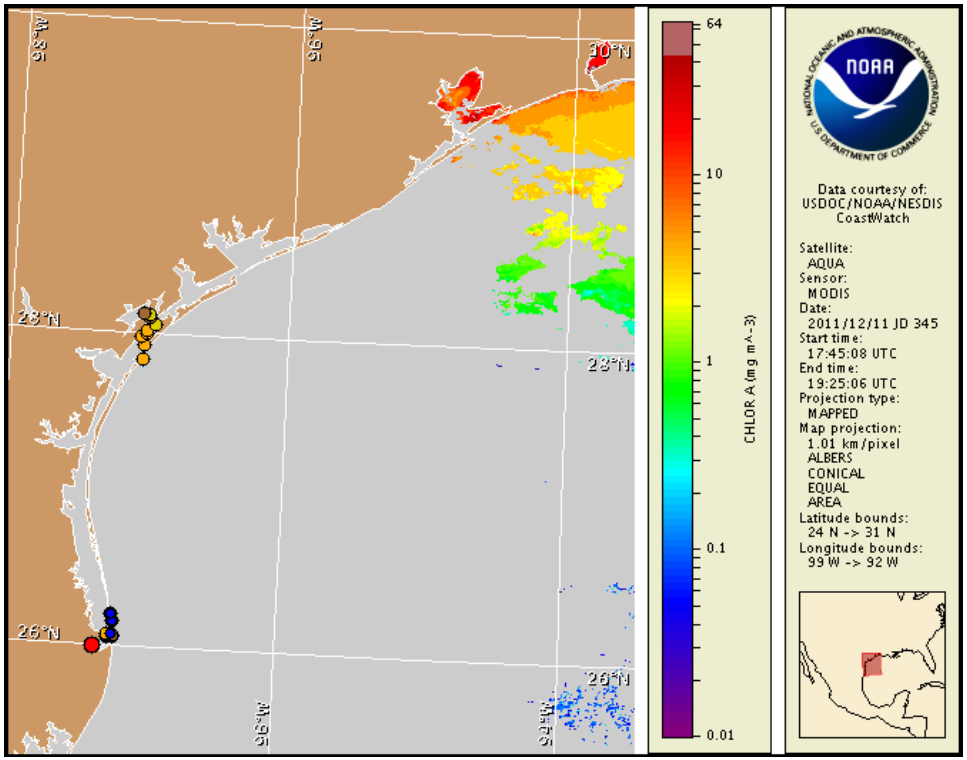
Monday, 12 December 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, December 8, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from December 2 to 9 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Aransas Pass area and within Corpus Christi Bay, alongshore the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Patchy high impacts are expected today through Wednesday in the Port Aransas/Corpus Christi region and Brownsville Ship Channel area, Tuesday and Wednesday in the South Padre Island region, and on Wednesday within the lower Laguna Madre area. Patchy moderate impacts are expected today in the South Padre Island region, and today and Tuesday within the lower Laguna Madre area. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, alongshore the Matagorda Peninsula and within Matagorda Bay on November 15, and alongshore the Padre Island National Seashore region on November 28. Associated respiratory impacts remain possible in these areas. No additional impacts are expected at the coast in Texas today through Wednesday, December 14. Late last week, respiratory irritation was reported in the San Jose Island and Mustang Island regions, and reports of dead fish were received from the bayside of South Padre Island.

Analysis

A harmful algal bloom is present along the Texas coast in the Aransas Pass area and within Corpus Christi Bay, alongshore the South Padre Island region, and within the lower Laguna Madre and Brownsville Ship Channel area. Water samples last identified harmful algal blooms in the Galveston/Freeport area on November 17, alongshore the Matagorda Peninsula and within Matagorda Bay on November 15, and alongshore the Padre Island National Seashore region on November 28.

No new samples have been received from the Galveston, Matagorda, or Padre Island National Seashore regions. The latest samples indicated 'low a' to 'low b' *Karenia brevis* concentrations in northwest Galveston Bay (11/17; TPWD), 'low b' to 'high' concentrations within Matagorda Bay (11/1-7; TPWD), and 'medium' to 'high' concentrations alongshore Padre Island National Seashore (11/28; TPWD).

In the Port Aransas region, samples remain between 'low a' and 'medium' concentrations (12/8-9; TPWD). Within the northern portion of Aransas Bay and Copano Bay, samples indicate that *K. brevis* has increased to 'low b' concentrations at the Copano Bay Causeway, and continues to range between 'low a' and 'low b' concentrations at sample locations near Lap Reef (within Copano Bay), offshore Fulton, and at Long Reef (12/8; TPWD). Within the central and southern portions of Aransas Bay, *K. brevis* has returned to 'medium' concentrations at the following sample sites: offshore Key Allegro (near Rockport Beach Park), ICCW #49, Cove Harbor, and Long Reef/St. Jose Island (12/8; TPWD). Samples collected from the UTMSI pier, on the Gulf-side of Aransas Pass, continue to indicate 'medium' concentrations of *K. brevis* (12/9; TPWD). Late last week, reports of respiratory irritation were received from San Jose Island and the Packery Channel jetties in the Mustang Island region, but no aerosols were reported from Port Aransas (12/9; TPWD).

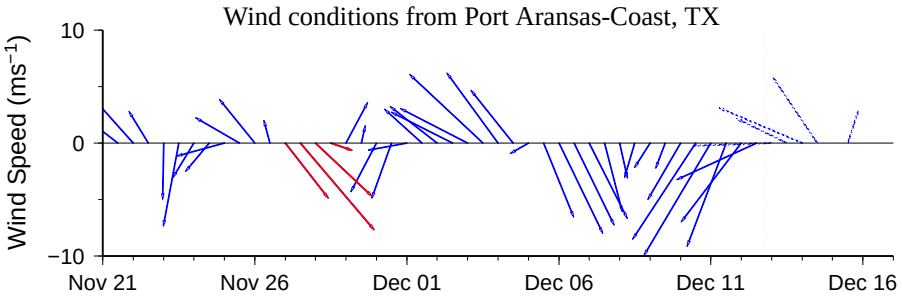
In the South Padre Island region, samples indicate that *K. brevis* concentrations continue to fluctuate. Alongshore the Gulf Coast of South Padre Island, samples collected from Beach Access 5 and 6 indicate that *K. brevis* has decreased to between 'very low b' and

'low b' concentrations (12/7-8; TPWD). Samples collected from the UTPA Coastal Studies Lab and within Brazos Santiago Pass (Gulf-side) continue to indicate 'low a' concentrations of *K. brevis* (12/7-8; TPWD). Within the lower Laguna Madre, *K. brevis* concentrations continue to fluctuate, as well. On the South Padre Island side, samples indicate that *K. brevis* concentrations have decreased to 'present' at the Isla Blanca boat ramp and to a range between 'not present' and 'very low b' at the nearby east end of the Queen Isabella Causeway (12/7-8; TPWD). On the western side of the lower Laguna Madre, near Port Isabel, samples indicate that *K. brevis* concentrations continue to fluctuate between 'low b' and 'medium' at the west end of the Queen Isabella Causeway and have decreased to between 'very low a' and 'low a' within Canal C at Long Island Village (12/7-8; TPWD). The most recent sample collected within the Brownsville Ship Channel indicated 'high' concentrations at the San Martin Boat ramp (12/2; TPWD). Late last week, reports of dead fish were received from the east end of the Queen Isabella Causeway (12/9; TPWD).

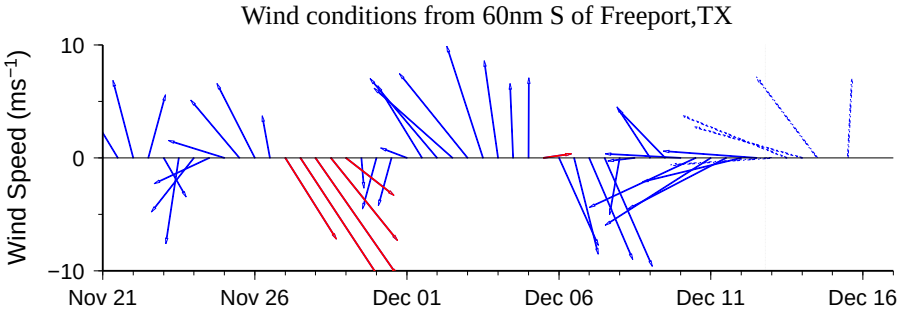
Recent imagery (MODIS, 12/8-12/11) along the Texas coastline is obscured by clouds, limiting analysis. MODIS imagery (12/11) shows patches of elevated chlorophyll (3 to <10 μg/L) offshore the Sabine Pass and Galveston regions. Elevated chlorophyll at the coast may contain *K. brevis*, but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

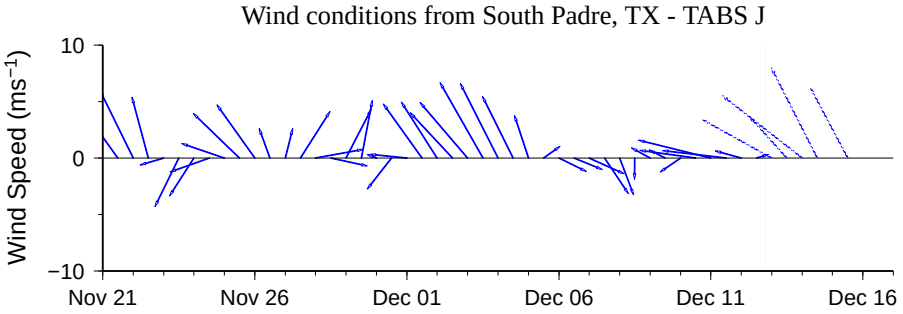
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 60-70 km south from the Galveston Bay, Matagorda Peninsula, and Port Aransas regions, 50 km south along the Padre Island National Seashore region, and 60 km south from Brazos Santiago Pass from December 11-15. Onshore winds over the next several days will increase the potential for impacts along the Texas coastline.

Kavanaugh, Derner



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



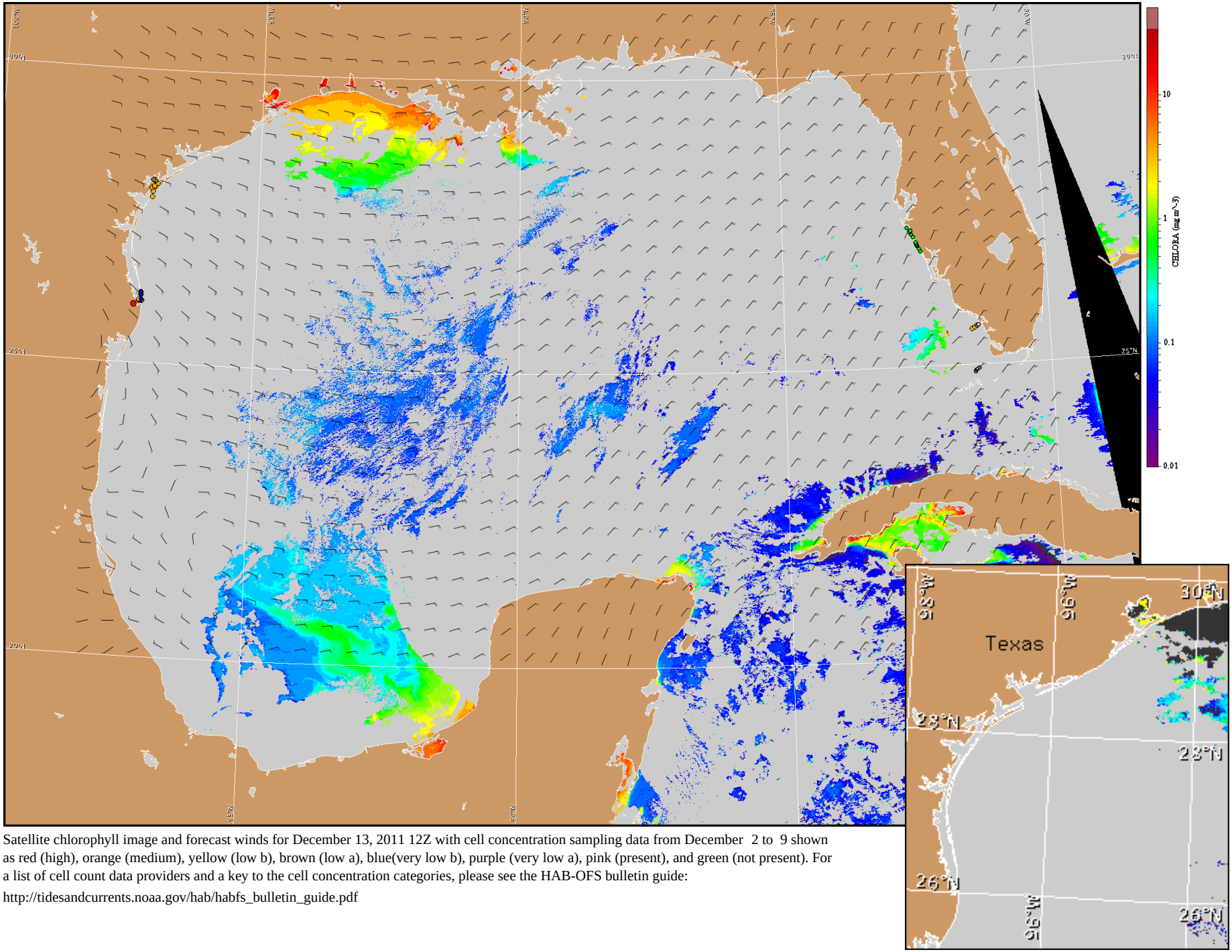


Wind Analysis

Galveston/Freeport: East winds (10-15 kn, 5-8 m/s) today through Tuesday becoming southeast winds (10-15 kn) Tuesday night through Wednesday.

Port Aransas: East winds (10-20 kn, 5-10 m/s) today through Tuesday becoming southeast winds (10-20 kn) Tuesday night through Wednesday.

South Padre: Variable winds (5-10 kn, 3-5 m/s) becoming southeast winds (10-20 kn) today through Tuesday night. South winds (15-20 kn, 8-10 m/s) Wednesday.



Satellite chlorophyll image and forecast winds for December 13, 2011 12Z with cell concentration sampling data from December 2 to 9 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:
http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).